

REMARKS

This amendment is in response to the Official Action dated August 18, 2009. Claims 7-10 have been amended, no claims have canceled, and no claims have been added; as such, claims 1-10 are now pending in this application. Claims 1, 5, 7, 8, 9 and 10 are independent claims. Reconsideration and allowance is requested in view of the following remarks.

Allowable Subject Matter

Applicant appreciates that claim 3 is objected to as being dependent upon a rejected base claim that would be allowable if rewritten in independent form, including all of the features of the base claim and intervening claims.

However, it is submitted that claims 1-2 and 4-10 are also allowable in view of the following remarks.

35 USC § 101 Rejections

Claims 7-10 have been rejected under 35 U.S.C. § 101 based upon the allegation that the claimed invention is directed to non-statutory subject matter, particularly a software application.

Applicant appreciates the UPSTO's attention to the claims in this regard, and has modified claim 7-10 to recite computer-related article of manufacture claims, which are clearly a properly recited statutory category of invention.

Applicant respectfully requests the rejection of claims 7-10 under 35 U.S.C § 101 be withdrawn.

35 USC 103 Response

Claims 1-2 and 4-10 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakatani et al (US 2004/0247296, hereinafter referred to as “Nakatani ‘296”) in view of Sugahara et al. (US 2003/0154687, hereinafter referred to as “Sugahara ‘687”). Applicant respectfully traverses this rejection.

Claim 1 recites:

A video-encoding device for encoding video signals and exerts control over the encoding according to an occupied amount of a virtual buffer, the occupied amount being determined based on the amount of codes generated through the encoding and the amount of codes transferred to an output destination, the video-encoding device comprising:

recording-mode determination means for determining whether or not seamless connection between a preceding chapter and the following chapter that are included in the video signals is feasible and setting an initial value of the occupied amount of the virtual buffer based on the determination result;

occupied-amount update means for updating the occupied amount of the virtual buffer every time the encoding is performed;

optimum-occupied-amount calculation means for calculating a predetermined optimum occupied amount based on the updated occupied amount of the virtual buffer;

target-code-amount calculation means for calculating a predetermined target-code amount based on the video signals of the following chapter;

target-code-amount adjustment means for adjusting the target code amount so that the sum total of the occupied amount of the virtual buffer and the target code amount does not exceed the optimum occupied amount; and

encoding means for performing the encoding based on the adjusted target code amount.

Nakatani '296 fails to disclose teach or suggest these claimed features.

Nakatani '296 relates to an optical disc recording apparatus and an optical disc recording method that each record video objects (compressed audio and video data) so that the seamless reproduction of the video objects is possible even if a pause operation was designated by a user during recording.

There is no mention of an occupied-amount update means, an optimum-occupied-amount calculation means, or a target-code-amount adjustment means in Nakatani '296.

Moreover, the Office Action of August 18, 2009 admits Nakatani '296 fails to disclose or suggest an "*occupied-amount update means for updating the occupied amount of the virtual buffer every time the encoding is performed, optimum-occupied-amount calculation means for calculating a predetermined optimum occupied amount based on the updated occupied amount of the virtual buffer, target-code-amount calculation means for calculating a predetermined target-code amount based on the video signals of the following chapter; target-code-amount adjustment means for adjusting the target code amount so that the sum total of the occupied amount of the virtual buffer and the target code amount does not exceed the optimum occupied amount.*"

However, the Office Action alleges these features can be found in Sugahara '687. This is wholly inaccurate.

Sugahara '687 provides a data coding method and an apparatus which enables the depiction of navigation data for depicting a reproduction control message for reproducing the video object unit and a search message for making a search, before the encoding is started, with a storage memory having a minimum required capacity. Sugahara '687 is also said to enable real-time

encoding and depiction of navigation data while maintaining the picture quality to be at an optimum level. In addition, it is possible to determine the target amount of codes for each picture type that corresponds to the encoding rate. Therefore, by making the thus-determined values ones at which the quality of the signals becomes statistically the most excellent, it becomes possible to perform encoding while maintaining the quality of the signal to be at an optimum level.

In contrast, Applicant's claimed invention achieves seamless connection between video streams that are separately encoded while considering the occupied amount of a proceeding chapter of a VBV buffer while transmitting the data of a following chapter to the VBV buffer.

Though Sugahara '687 discloses a VBV buffer transition observing unit that monitors the amount of occupation of the VBV buffer according to the generated amount of codes supplied from the buffer memory, there is no mention of an optimum-occupied-amount calculation means for calculating a predetermined optimum occupied amount based on the updated occupied amount of the virtual buffer.

Likewise, though Sugahara '687 discloses a need for controlling the amount of codes so there is no overflow or underflow of the encoding process, there is no mention of a target-code-amount adjustment means for adjusting the target code amount so that the sum total of the occupied amount of the virtual buffer and the target code amount does not exceed the optimum occupied amount.

Since even a combination of the relied upon references would still fail to yield the claimed invention, Applicant submits that a prima facie case of obviousness for claim 1 has not been presented. Applicant also notes that the offered combination appears to be a failed attempt to reconstruct the claimed invention in hindsight, as there is no basis to combine the optical disk recording apparatus of Nakatani '296 with the data coding method of Sugahara '687.

For the reasons stated above, claims 5, 9, and 10 also are distinct from the Nakatani '296 in view of Sugahara '687 (although claims 1, 5, 9, and 10 should be interpreted solely based upon the limitations set forth therein). Furthermore, at least for the reason disclosed above, claims 2, 4 and 6 overcome the combination of Nakatani '296 in view of Sugahara '687 because they depend on independent claims 1 or 5 and thus incorporate the distinct features therein, as well as their separately recited patentably distinct features.

Accordingly, Applicant respectfully requests that the rejection of 1-2 and 4-10 under 35 U.S.C. § 103(a) as being unpatentable over Nakatani '296 in view of Sugahara '687 be withdrawn.

Conclusion

In view of the above amendment and remarks, applicant believes the pending application is in condition for allowance.

This response is believed to be a complete response to the Office Action. However, Applicant reserves the right to set forth further arguments supporting the patentability of their claims, including the separate patentability of the dependent claims not explicitly addressed herein, in future papers. Further, for any instances in which the Examiner took Official Notice in the Office Action, Applicant expressly does not acquiesce to the taking of Official Notice, and respectfully request that the Examiner provide an affidavit to support the Official Notice taken in the next Office Action, as required by 37 CFR 1.104(d)(2) and MPEP § 2144.03.

Extensions of time

Please treat any concurrent or future reply, requiring a petition for an extension of time under 37 C.F.R. §1.136, as incorporating a petition for extension of time for the appropriate length of time.

Application No. 10/538,086
Amendment dated October 28, 2009
Reply to Office Action of August 18, 2009

Docket No.: SON-3122

The Commissioner is hereby authorized to charge all required fees, fees under 37 C.F.R. §1.17, or all required extension of time fees.

Fees-general authorization

The Commissioner is hereby authorized to charge any deficiency in fees filed, asserted to be filed, or which should have been filed herewith (or with any paper hereafter filed in this application by this firm).

If any fee is required or any overpayment made, the Commissioner is hereby authorized to charge the fee or credit the overpayment to Deposit Account # 18-0013.

Dated: October 28, 2009

Respectfully submitted,

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